

California Center for Sustainable Energy

Accelerating the transition to a sustainable world powered by clean energy

Soft Cost Grand Challenge

May 22, 2014

How is your organization trying to tackle solar soft cost challenges in a novel way?

- State goals as a driver towards success
- Looking to drive greater customer acquisition success rates by cross pollinating early adopters and leading achievers across clean energy industries
- Data collection through focus groups, program applicant surveys and program uptake trends

California's Goals...

Energy Efficiency Goals by 2020

- 25% of existing homes have a 70% decrease in purchased energy from 2008 levels
- 75% of existing homes have a 30% decrease in purchased energy from 2008 levels
- 100% of existing multi-family homes have a 40% decrease in purchased energy from 2008

Renewables Goals

- CSI: 3,000 MW (1,950 for IOUs)
- Governor Brown: 12,000 MW
- ZNE: 4,000 MW for ZNE residential

Transportation

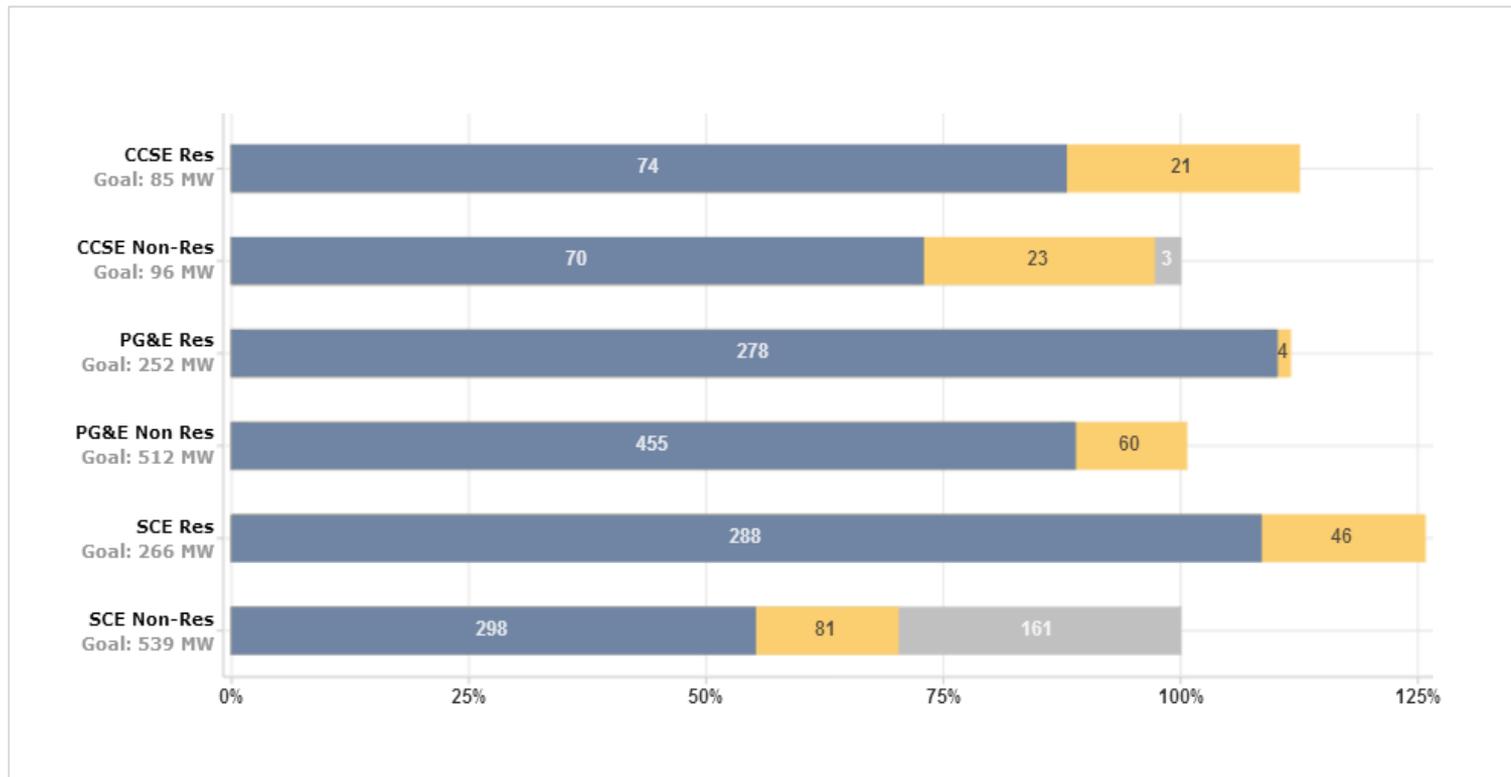
- 15.4% of all new cars to be Zero Emission Vehicles by 2025
- **1.5 million ZEVs on the road by 2025**

What data do you collect?

- Measuring program goals vs. actual uptake
- Adoption trends over time
- Adoption trends by region
- Data collected through program applicant surveys and focus groups, including demographics, etc.

California Solar Initiative

Program Goals

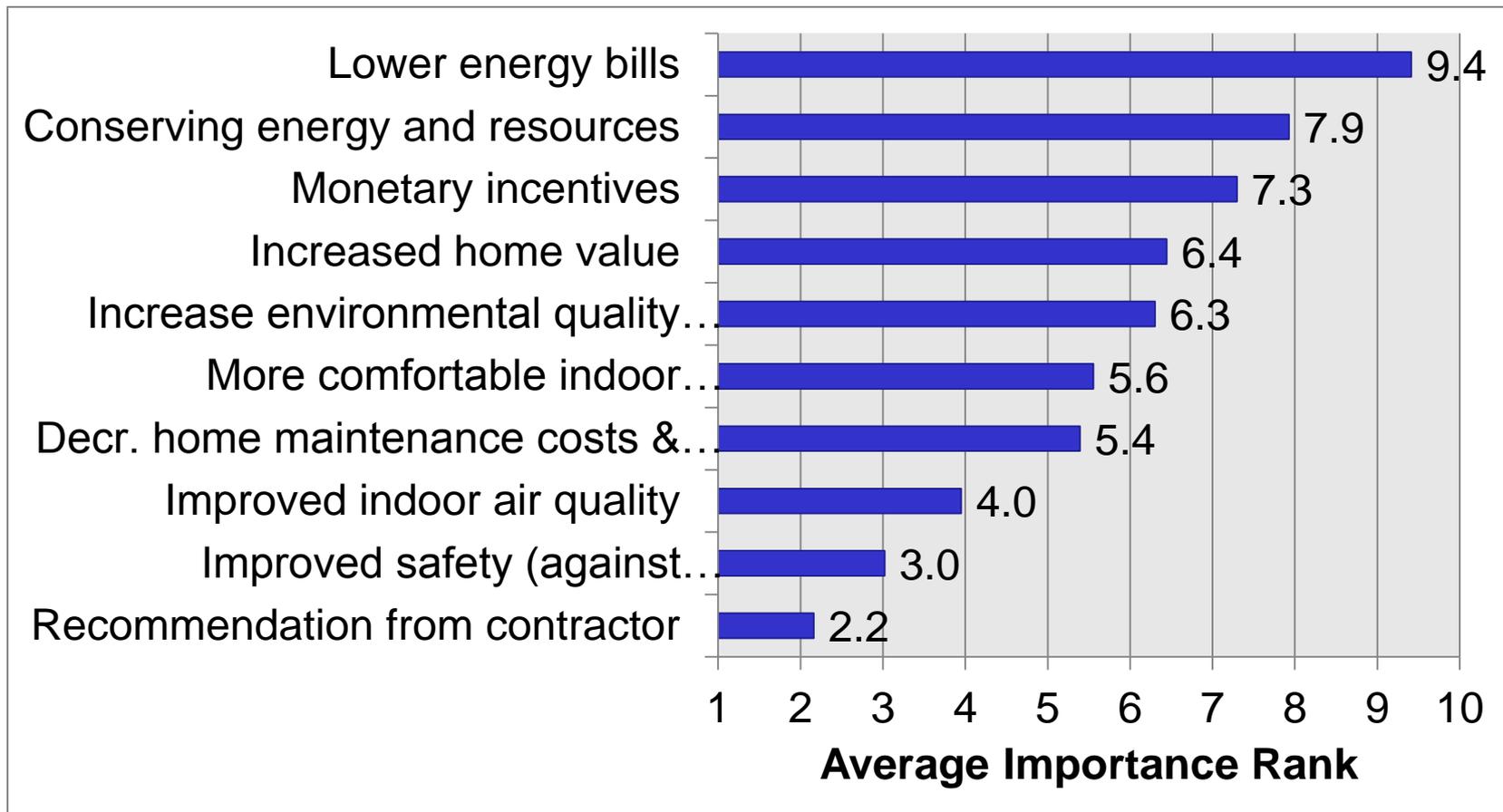


144,920 application(s) were included for the generation of this chart

Home Upgrade Motivations & Behaviors of Residential CSI Participants Survey

- Key findings of the surveys and the focus groups conducted with selected CSI participants
- Findings and recommendations for policy makers, local government and members of the contracting industry to increase the awareness/adoption of energy efficiency measures among residential solar adopters

Motivations for Energy Efficiency



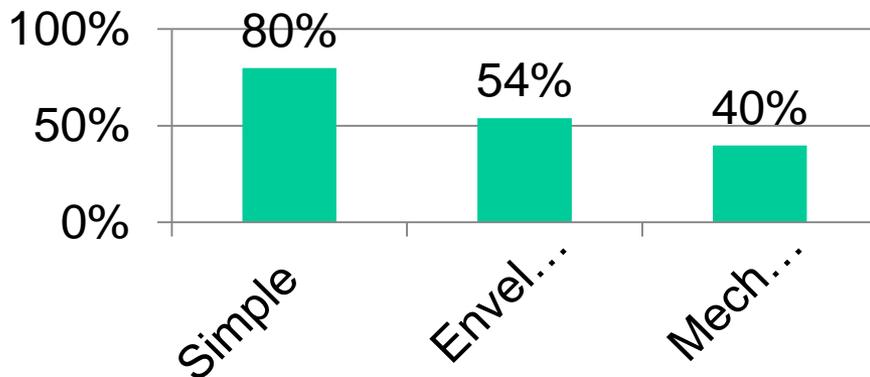
Energy Efficiency Categories

Simple	lighting, low-flow fixtures, Energy Star appliances, ceiling fans, attic fans
Envelope	Windows, doors, air sealing, insulation, cool roof
Mechanical	Solar Water Heater, High-efficiency water heater, High-efficiency HVAC, ducts & seals, High-efficiency furnace

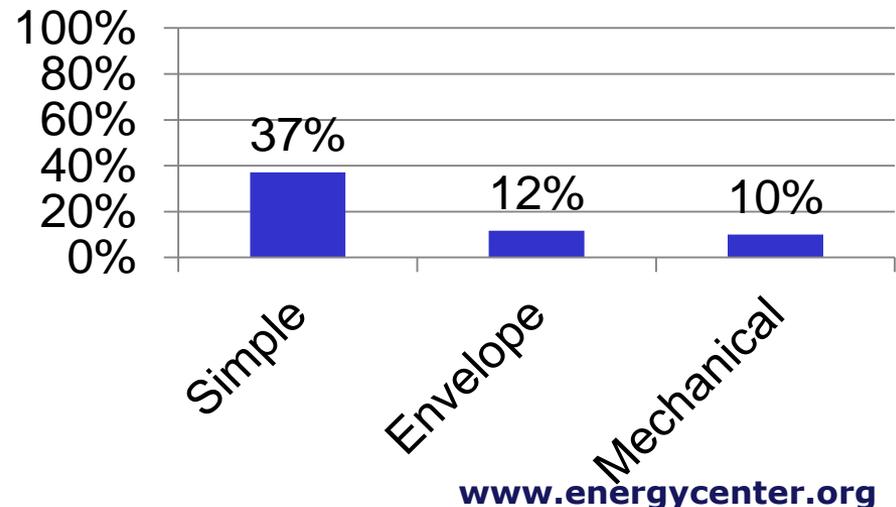
Energy Efficiency Upgrades & PV Installation



Before or With PV Installation

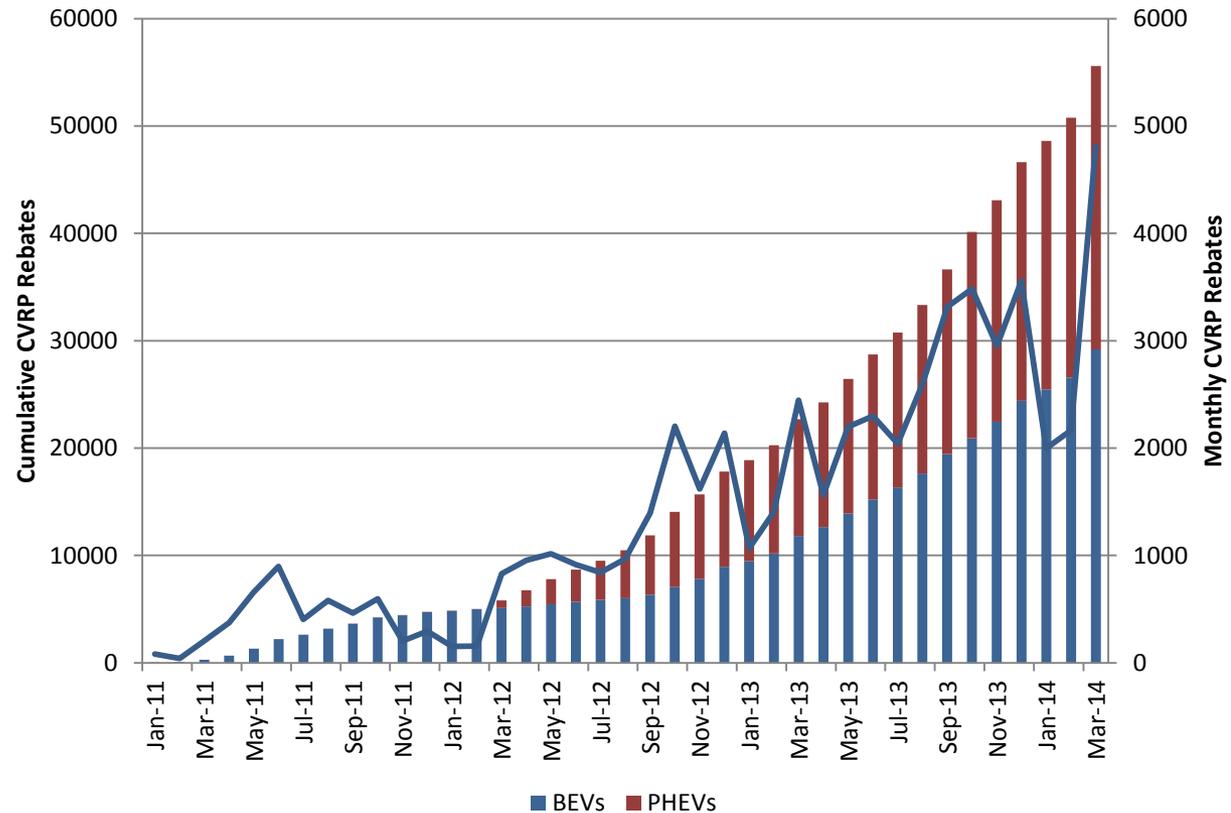


After PV Installation



Cumulative and Monthly CVRP Rebates

2013 Q4
1 in 30 light duty vehicles
1 in 18 cars

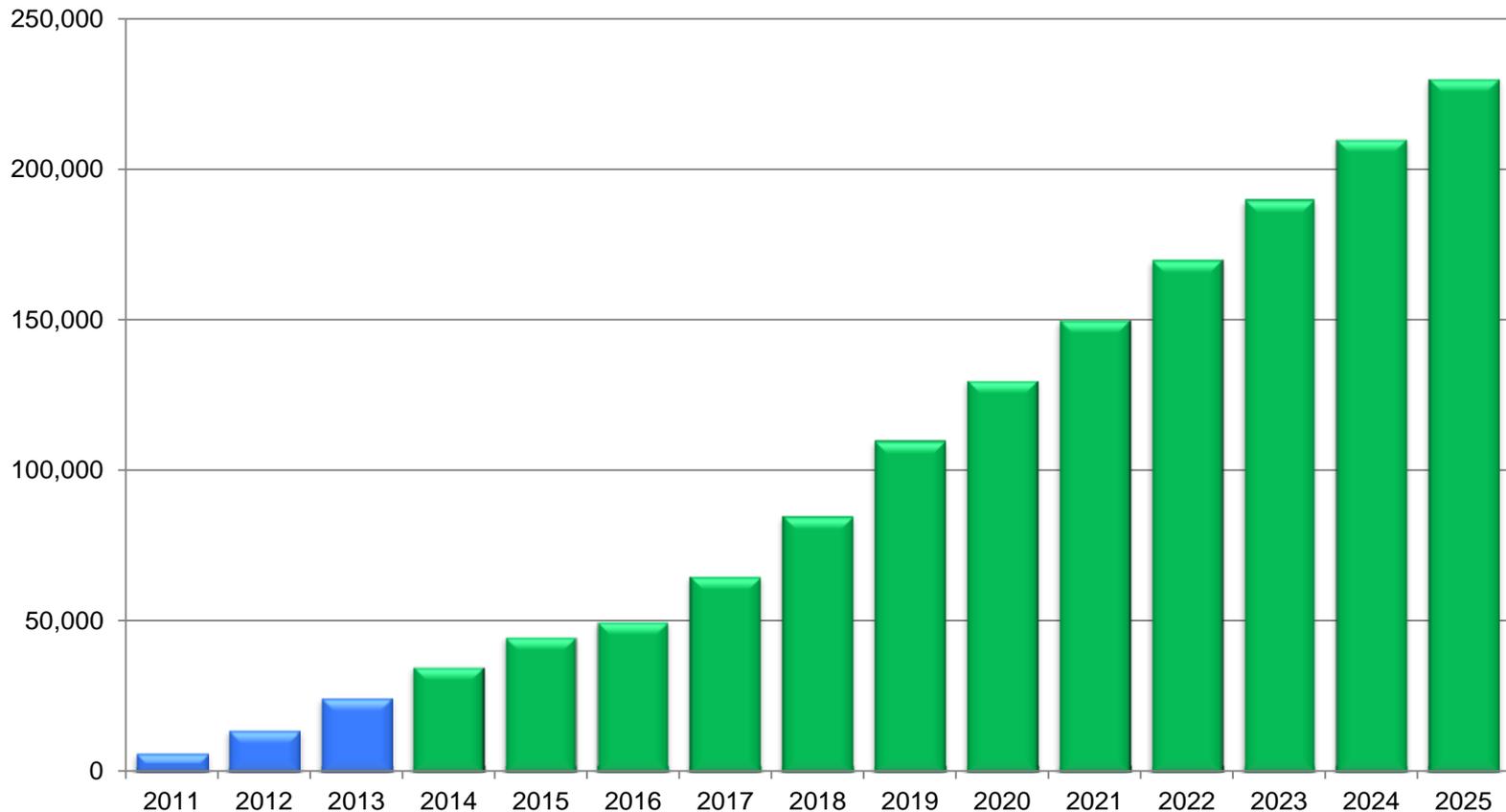


By purchase/lease date

and moving forward...

CA PEV Market moving forward

Required Sales to Reach 1.5 Million ZEVs in California



Demographic Composition*

88% reside in a single-family detached home



7% reside in a single-family attached home (townhome, duplex, triplex, etc.)

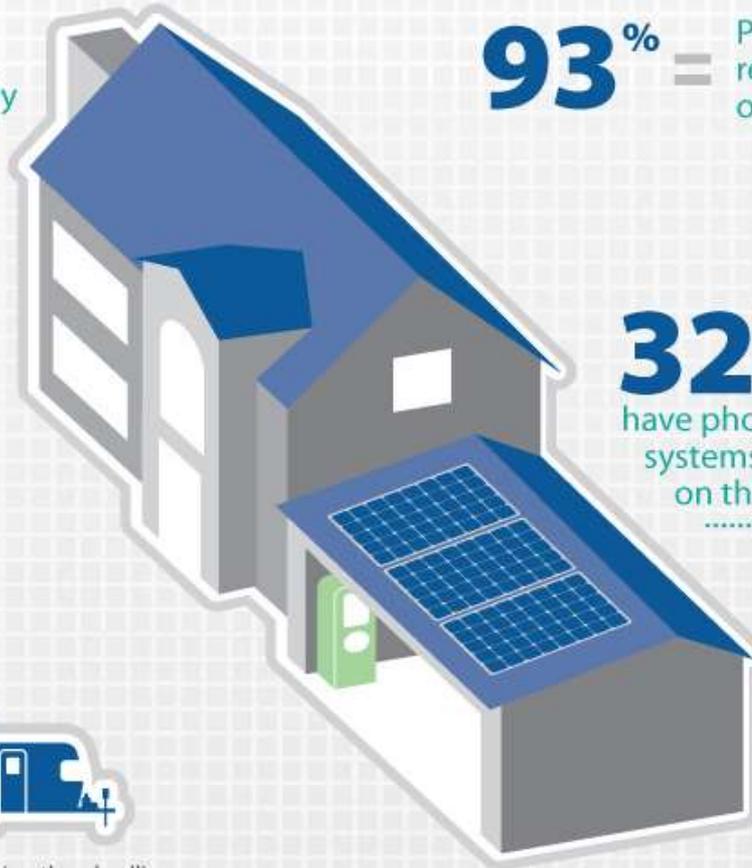


4% reside in an apartment/condominium



1% reside in other dwellings

93% = Percentage of respondents who own their home



32% have photovoltaic systems installed on their home

16% plan to install solar

What measurements do you take to gauge impact?













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California Solar Statistics

Welcome to California Solar Statistics

California Solar Statistics is the official public reporting site of the California Solar Initiative (CSI), presented jointly by the [CSI Program Administrators](#) and the [California Public Utilities Commission](#). This site presents actual program data, exported from the CSI online application tool each Wednesday. Users of this site can view program data summaries for the CSI General Market, Multifamily Affordable Solar Housing (MASH), and Single Family Affordable Solar Homes (SASH) programs provided in several figures and tables, and can also download the complete Working Data Set for their own analysis.

View Solar Statistics

Find an Active Solar Contractor

Download Current CSI Data

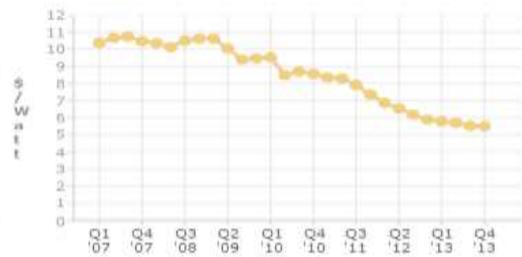
Search for Applications

FAQs and Facts

California Leads the Nation

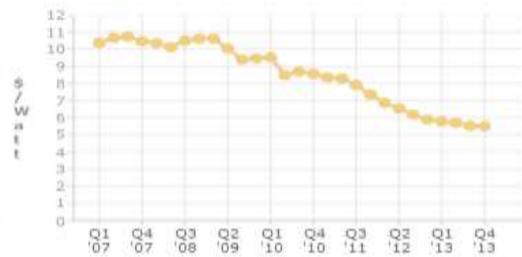
203,901	solar projects
2,022	megawatts installed
\$5.77	avg cost/watt <10kW
\$5.30	avg cost/watt >10kW

NOTE: Above figures include non-CSI data
last updated: April 9, 2014 [data sources](#)





Program Totals



Cost by Quarter

Using California Solar Statistics

View Solar Statistics

From the average cost per watt of a solar system, to the city with the most roof-top solar, to the total number of MW installed, the View Solar Statistics menu is your gateway to the most up-to-date information on the California Solar Initiative. The dynamic filters on each figure allow you to slice and dice the program data to suit your research and evaluation needs. Roll your mouse over the View Solar Statistics item at the top of the left navigation to get started.

How could enhanced data analytics help improve outcomes?

- Data and interconnection issues- post CSI dialogue
- Enhanced data analytics could help California and the U.S. better understand the relationships of adoption and motivation across technologies and geographic regions, etc.
- Analytics could demonstrate where adoption rates of specific technologies could better inform and further enhance customer acquisition methodologies across the clean energy spectrum
- Analytics could be replicated to enhance technology adoption in other regions

What would a pilot program look like and how would it be structured?

- Must be a multifaceted approach, not specific to one technology
- Too often our programs are designed to focus on one specific area
- Include participation from Governors Office of Planning and Research, CPUC, CEC, Investor and Municipal Utilities, Contractor, Workforce and Manufacturing and Soft Cost Scientists
- Deep on the ground stakeholder engagement

How could enhanced partnerships with “soft cost scientists” be valuable?

- Working together to understand best uses of advanced data
- Assist in the development of consistent and innovative data collection processes
- Tailoring pilot programs to reach widest audience
- Helping to ensure that the pilot program is replicable in other regions of the U.S.

Questions?

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